CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

MONITORING AND REPORTING PROGRAM NO. R9-2002-0169
FOR NPDES PERMIT NO. CA0109169

FOR

U.S. NAVY

NAVAL BASE SAN DIEGO

SAN DIEGO COUNTY

PURPOSE

This monitoring program is intended to:

- Document short-term and long-term effects of the discharge on receiving waters, sediments, biota, and beneficial uses of the receiving water;
- Determine compliance with NPDES permit terms and conditions.
- Determine compliance with water quality objectives.
- Determine effectiveness of Best Management Practices.

A. MONITORING PROVISIONS

1. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring locations identified in the Report of Waste Discharge. Other waste streams, body of water or substance shall not dilute the monitored discharge. Monitoring points shall not be changed without notification to, and the approval of, this Regional Board.

2. Monitoring must be conducted according to United States Environmental Protection Agency (USEPA) test procedures approved under Title 40, United States Code of Federal Regulations (CFR), Part 136, *Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act* as amended, unless other test procedures are specified in Order No. R9-2002-0169 and/or in this Monitoring and Reporting Program and/or by this Regional Board.

3. Monitoring results must be reported on forms approved by this Regional Board. Duplicate copies of the monitoring reports signed and certified as required by *Reporting Requirement F.8* of *Order No. R9-2002-0169* must be submitted to the USEPA and the Regional Board at the addresses listed in *Reporting Requirement F.10* of *Order No. R9-2002-0169.*

4. If the discharger monitors any pollutant more frequently than required by Order No. R9-2002-0169 or by this Monitoring and Reporting Program, using test procedures approved under 40 CFR Part 136, or as specified in *Order No. R9-2002-0169* or this Monitoring and Reporting Program or by this Regional Board, the results of the monitoring shall be included in the calculation and reporting of the data submitted in the discharger's monitoring report. The increased frequency of monitoring shall also be reported.

5. The discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by *Order No. R9-2002-0169* and this Monitoring and Reporting Program, and records of all data used to complete the application for *Order No. R9-2002-0169*, for a period of at least five years from the date of the sample, measurement, report, or application. This period may be extended by request of this Regional Board.

6. Records of monitoring information shall include:

   a. The date, exact place, and time of sampling or measurements;
   b. The individual(s) who performed the sampling or measurements;
   c. The date(s) analyses were performed;
   d. The individual(s) who performed the analyses;
   e. The analytical techniques or methods used; and
   f. The results of such analyses.

7. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in *Order No. R9-2002-0169* or this Monitoring and Reporting Program.

8. All analyses shall be performed in a laboratory certified to perform such analyses by the California Department of Health Services or a laboratory approved by this Regional Board.

9. The discharger shall report in a cover letter all instances of noncompliance not reported under *Reporting Requirement F.5* of *Order No. R9-2002-0169* at the time monitoring reports are submitted. The reports shall contain the information listed in *Reporting Requirement F.5.*

10. All monitoring instruments and devices used by the discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure

their continued accuracy. All flow measurement devices shall be calibrated at least once per year to ensure continued accuracy of the devices.

11. Monitoring results shall be reported at intervals and in a manner specified in Order No. R9-2002-0169 or in this Monitoring and Reporting Program.

12. This Monitoring and Reporting Program may be modified by this Regional Board, as appropriate.

B. EFFLUENT MONITORING

1. Utility Vault and Manhole Dewatering

a. The discharger shall submit a case study that shall: (1) define the types of discharges that occur, and (2) take up to five representative samples of each type of discharge and analyze the samples, using test procedures specified in Title 40, Code of Federal Regulations (CFR), Part 136, for the constituents listed in *Table 1. Monitoring Requirements for the Annual Report and Case Study for the Utility Vault Discharges*.

b. Samples taken shall be representative of the monitored activities and shall be performed after the implementation of the *Best Management Practices* (BMP) outlined in the *Pollution Prevention Plan* (PLAN) as specified in *Order No. R9-2002-0169, E. Special Conditions for Utility Vault & Manhole Dewatering Discharges.*

c. At a minimum, the case study shall provide the following:

(1) A list of the typical types of discharges that occur in the project area.
(2) A rationale for the selection of sampling locations.
(3) A description of the sampling methods, locations, and frequency of monitoring for each type of discharge.
(4) The results of any analysis done for each type of discharge.

d. The discharger shall submit the case study with their first annual report and it shall constitute the first year's annual monitoring. Any case study for newly identified types of discharges not previously covered or submitted with the first annual report shall be submitted with the annual report for that same year when the case studies are performed.

e. The discharger shall provide an 8-1/2" x 11" map showing the location of the samples taken for the case study with respect to the distribution system. The map shall be at a scale of at least 1:24,000 (1" = 2000') (e.g., USGS 7.5' topographic map). If the service area is too large for such a scale to be practical, then a scale

of up to 1:144000 may be used. If a scale of 1:144000 is still impractical, a map larger than 8-1/2" x 11" may be used. The map shall also show, within reason for the final scale, the surface waters within the boundaries of the service area to which water may be discharged.

f. Annually, the discharger shall submit a log of the utility vault and manhole dewatering discharges describing the volume, flow rate, location of the discharge, date, and receiving water body.

g. The monitoring requirements for utility vault discharges are listed in *Table 1. Monitoring Requirements for the Annual Report and Case Study for the Utility Vault & Manhole Dewatering Discharges*.

Table 1. Monitoring Requirements for the Annual Report and Case Study for the Utility Vault & Manhole Dewatering Discharges.

PARAMETER	UNIT	TYPE OF SAMPLE	MINIMUM FREQUENCY
Turbidity	NTU	grab	Case study & annually
Settleable Solids	ml/L	grab	Case study & annually
pH	pH Units	grab	Case study & annually
Electrical conductivity or salinity	mmhos/cm or ppt	measurement	Case study & annually
Total petroleum hydrocarbons (TPH)	mg/L	grab	Case study & annually
Oil & grease	mg/L	grab	Case study & annually
Total Suspended Solids (TSS)	mg/L	grab	Case study & annually
Arsenic	µg/L	grab	Case study & annually
Cadmium	µg/L	grab	Case study & annually
Chromium	µg/L	grab	Case study & annually
Copper	µg/L	grab	Case study & annually
Lead	µg/L	grab	Case study & annually
Mercury	µg/L	grab	Case study & annually
Nickel	µg/L	grab	Case study & annually
Silver	µg/L	grab	Case study & annually
Zinc	µg/L	grab	Case study & annually
Polynuclear Aromatic Hydrocarbons (PAH)	µg/L	grab	Case study & annually

Note: mmhos/cm = millimhos/centimeter
ppt = part per thousand (marine waters)
mL/L = milliliters per liter
mg/L = milligrams per liter
µg/L = micrograms per liter

2. Steam Condensate

Annually, the discharger shall submit a list of the chemicals added to the steam boiler.

Monitoring of steam condensate wastes shall be conducted and submitted as specified in *Table 2. Monitoring Requirements for Steam Condensate Discharges*.

Table 2. Monitoring Requirements for Steam Condensate Discharges.

PARAMETER	UNIT	TYPE OF SAMPLE	MINIMUM FREQUENCY
Flow	gallons	estimate	Annually
Oil & Grease	mg/L	grab	Annually
Settleable Solids	mL/L	grab	Annually
Turbidity	NTU	grab	Annually
pH	Units	grab	Annually
Temperature	^{o}C	measurement	Annually
Total Suspended Solids (TSS)	mg/L	grab	Annually
Arsenic	µg/L	grab	Annually
Cadmium	µg/L	grab	Annually
Chromium	µg/L	grab	Annually
Copper	µg/L	grab	Annually
Lead	µg/L	grab	Annually
Mercury	µg/L	grab	Annually
Nickel	µg/L	grab	Annually
Silver	µg/L	grab	Annually
Zinc	µg/L	grab	Annually

Note: mL/L = milliliters per liter
mg/L = milligrams per liter
µg/L = micrograms per liter

3. Pier Boom, Mooring, and Fender System Cleaning

Annually, the discharger shall submit a log of boom, mooring and fender system cleaning activity including the duration, the personnel in-charge of the cleaning, the quantity of the discharge, the date, a summary of any potential impacts to receiving water quality, and a summary regarding the description and location of any booms removed from the Bay to be cleaned because of oil or other pollutant.

4. Miscellaneous Discharges (except for discharges regulated by Order No. R9-2002-0020, NPDES No. CAG6790001 (i.e., Hydrostatic Test Water and Potable Water discharges) or other applicable NPDES permits)

Annually, the discharger shall submit a log identifying any significant changes in the operation of the miscellaneous discharges.

C. INDUSTRIAL STORM WATER MONITORING

1. High-Risk Areas

Annually the discharger shall identify the high-risk areas at the NAVSTA.

Within 27 months of the adoption of this Order the discharger shall submit a report certifying that the termination of the first ¼ inch of runoff from high-risk areas at the NAVSTA has been accomplished.

2. Monitoring for Copper and Zinc

Each industrial storm water discharge at the NAVSTA facility must include analysis for copper and zinc. (Other industrial storm water discharges may be analyzed for copper or zinc, if the copper or zinc are identified in the sampling plan.)

Whenever the discharge of industrial storm water from a particular industrial activity contains a copper concentration greater than 63.6 µg/L or a zinc concentration greater than 117 µg/L, the discharger shall comply with *Discharge Specification B.2*, which contains specifications to modify the SWPPP and sample the industrial storm water discharge for 2 more storm events.

Storm water discharge monitoring results that contain copper and zinc concentrations greater than 63.6 µg/L or 117 µg/L respectively shall be submitted quarterly. Any additional monitoring for copper and zinc concentrations shall also be submitted quarterly.

All industrial storm water monitoring data shall also be included with the annual storm water report submittal.

3. Monitoring for Toxicity at NAVSTA

Effective 4-years after the adoption of this Order, the discharger must analyze a representative sample from each area at the NAVSTA at which industrial activities are conducted for acute toxicity during at least one storm water discharge event annually.

The acute toxicity test must be a 96-hour static or continuous flow bioassay (toxicity) test of undiluted storm water runoff associated with industrial activity. The acute toxicity testing must use the protocol in the 2001 Ocean Plan.

Interim toxicity monitoring study

During the first four years of this monitoring and reporting program the discharger shall analyze at least one industrial storm water discharge event at a minimum of three representative locations for acute toxicity survival test annually; or,

The discharger may analyze the industrial storm water discharges according to a toxicity study plan that will be developed by the discharger in consultation with the Regional Board. The discharger must submit an annual report for the interim toxicity monitoring study describing the status of the toxicity study and must include any sampling analyses conducted for the toxicity study.

4. Tabular and Graphical Data

Annually, the discharger shall submit tabular and graphical data containing the cumulative sampling analyses data collected for the storm water monitoring program. The submittal for the first annual report shall contain available data collected pursuant to the monitoring conducted for the General Industrial Storm Water Permit.

Annually, the discharger shall submit tabular and graphical data containing the sampling analyses data collected for the storm water monitoring program for the year.

5. Non-storm Water Discharge Visual Observations

a. The discharger shall visually observe each drainage area for the presence of, or for indications of prior unauthorized non-storm water discharges and their sources;

b. The discharger shall visually observe the facility's authorized non-storm water discharges and their sources;

c. One visual observation shall be conducted quarterly in each of the following periods:

- January-March,
- April-June,
- July-September, and
- October-December.

d. The quarterly visual observations shall be conducted no less than eight weeks week and no more than 16 weeks apart. Visual observations are only required during daylight hours, on days without precipitation, and during scheduled facility operating hours[1].

e. Visual observations shall document the presence of or the indication of any non-storm water discharge, pollutant characteristics (floating and suspended material, oil and grease, discoloration, turbidity, odor, etc.), and source. The discharger shall maintain records of the personnel performing the visual observations, the dates and approximate time each drainage area and non-storm water discharge was observed, and the response taken to eliminate unauthorized non-storm water discharges and to reduce or prevent pollutants from contacting non-storm water discharges. The SWPPP shall be revised, as necessary, and implemented in accordance with *Attachment D* of this Order.

6. Storm Water Discharges and Other Visual Observations

a. The discharger shall visually observe storm water discharges from the first qualifying storm event in each month of the wet season (October 1 through May 31). These visual observations shall occur at all discharge locations during the first hour of discharge. The first qualifying storm event is one that begins producing storm water discharge during daylight scheduled facility operating hours, and is preceded by at least seven without a storm water discharge.

b. The discharger shall visually observe the discharge of stored or contained storm water at the time of discharge during daylight scheduled facility operating hours. Stored or contained storm water that will likely discharge after daylight scheduled facility operating hours due to anticipated precipitation shall be observed prior to the discharge during scheduled facility operating hours.

c. For the visual observations described above in *C.5 Non-storm water discharge visual observations, and C.6 Storm water discharges and other visual observations* the discharger shall observe the presence or absence of floating and suspended materials, oil and grease, discoloration, turbidity, odors, and source of any observed pollutants.

d. Monthly, the discharger shall visually observe storm water storage and containment areas to detect leaks and ensure maintenance of adequate freeboard.

e. The discharger shall record all storm events that occur during daylight scheduled facility operating hours that do not produce a discharge.

[1] *Scheduled facility operating hours* are the time periods when the facility is staffed to conduct any function related to industrial activity, but excluding time periods where only routine maintenance, emergency response, security, and/or janitorial services are performed.

f. The discharger shall maintain records of all visual observations, personnel performing the observations, observation dates, observed locations, and corrective actions taken in response to the observations. The SWPPP shall be revised, as necessary, in accordance with *Attachment D* of this Order.

7. Sampling and Analysis

a. The discharger shall collect storm water samples during the first hour of discharge from the first two qualifying storm events of the wet season. All storm water discharge locations shall be sampled. Sampling of stored or contained storm water shall occur at the time the stored or contained storm water is discharged. If samples are not collected from either or both of the first two qualifying storm events of the wet season, the discharger shall collect samples from the next qualifying storm events of the wet season and shall explain in the Annual Report why either or both of the first two qualifying storm events were not sampled.

b. Sample collection of storm water discharges is required only during scheduled facility operating hours and only when the storm water discharge is preceded by at least seven days without a storm water discharge.

c. All industrial storm water discharge samples shall be analyzed for:

- Total suspended solids (TSS);
- pH;
- specific conductance;
- total organic carbon (TOC);
- oil and grease (O&G) may be substituted for TOC; and
- Pollutants that are likely to be present in storm water discharges in significant quantities. The pollutants shall be selected based upon the pollutant source assessment required in *Attachment D, SWPPP Requirements, Assessment of Potential Pollutant Sources A.7*, visual observations and inspection records. If these pollutants are not detected in significant quantities after two consecutive sampling events, the discharger may eliminate the pollutant from future analysis until the pollutant is likely to be present again. The discharger shall select appropriate analytical test methods that indicate the presence of pollutants in storm water discharges in significant quantities.

d. When sampling results indicate the presence of significant quantities of pollutants in storm water discharges, the discharger shall implement corrective actions that include:

- A site evaluation to determine the pollutant source(s);

- An assessment of the facility's SWPPP to identify additional BMP to prevent or reduce pollutants in storm water discharges; and
- A certification that the SWPPP has been revised to include the additional BMP identified above.

8. Storm Water Discharge Sampling Locations

a. The discharger shall visually observe and collect samples of storm water discharges from all drainage areas. The storm water discharge collected and observed shall be representative of the storm water discharge in each drainage area.

b. The discharger shall identify alternate visual observation and sample collection locations if the facility's drainage areas are affected by storm water run-on from surrounding areas. The storm water discharge collected and observed shall be representative of the facility's storm water discharge in each drainage area.

c. If visual observation and sample collection locations are difficult to observe or sample (e.g., sheet flow, and submerged discharge outlets), the discharger may identify other alternative locations representative of the facility's storm water discharges.

d. If the discharger determines and documents within its annual report that the industrial activities and BMP within two or more drainage areas are substantially identical, the discharger may either:

   i. Collect samples from a reduced number of substantially identical drainage areas; or

   ii. Collect samples from each substantially identical drainage area and analyze a combined sample. The combined sample shall consist of equal volumes of sample collected from each substantially identical drainage area.

9. Visual Observation and Sample Collection Exceptions

The discharger shall be prepared to collect samples and conduct visual observations at the beginning of the wet season (October 1 through May 31) and throughout the wet season until the minimum requirements of *Section 6. Storm Water Discharge and Other Visual Observations,* and *Section 7. Sampling and Analysis* are completed with the following exceptions:

a. The discharger is not required to collect samples or conduct visual observations under the following conditions:

i. During dangerous weather conditions such as flooding and electrical storms;

ii. Outside of scheduled facility operating hours; or

iii. When a storm event in the proceeding seven days produced a storm water discharge.

b. If the discharger does not collect the required samples or conduct the visual observations during a wet season due to these exceptions, then the discharger shall include an explanation in the Annual Report why the sampling or visual observations were not conducted.

c. The discharger may conduct visual observations and sample collection more than one hour after discharge begins if the discharger determines that the storm water discharge will be more representative of the facility's storm water discharge. The discharger shall include a technical justification in the Annual Report explaining why the visual observations and sample collection should be conducted after the first hour of discharge.

10. Monitoring Methods

a. The SWPPP shall include a description of the following items:

i. Visual observation locations, visual observation procedures, and visual observation follow-up and tracking procedures.

ii. Sampling locations and sample collection procedures. This shall include procedures for sample collection, storage, preservation, and shipping to the testing lab to assure that consistent quality control and quality assurance is maintained.

iii. Identification of the analytical methods and related method detection limits (if applicable) used to detect pollutants in storm water discharges, including a justification that the method detection limits are adequate.

b. All sampling and sample preservation shall be in accordance with the current edition of *Standard Methods for the Examination of Water and Wastewater* (American Public Health Association). All monitoring instruments and equipment (including the dischargers' own field instruments for measuring pH and specific conductance) shall be calibrated and maintained in accordance with

manufacturers' specifications to ensure accurate measurements. All laboratory analyses shall be conducted according to test procedures under 40 CFR Part 136, unless other test procedures have been specified in this Order or by this Regional Board. All metals shall be reported as total metals. With the exception of analysis conducted by the discharger, all laboratory analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services. The discharger may conduct their own sample analyses if the discharger has sufficient capability (qualified employees, laboratory equipment, etc.) to adequately perform the test procedures.

D. ANNUAL EVALUATION

Annually the discharger shall submit the evaluation required by *Reporting Requirement F.1* of this Order *(Annually, the discharger shall evaluate the data collected pursuant to Monitoring and Reporting Program No. R9-2002-0169 and determine if the data indicates that the discharge has caused, or contributed to, an exceedence of applicable water quality objectives or impairment of water quality needed for designated beneficial uses in San Diego Bay)***.**

E. MONITORING FOR THE IMPLEMENTATION POLICY

a. Priority Pollutants

In order to comply with the Implementation Policy, the discharger shall monitor the following discharges (a representative sample may be taken for discharges with multple discharge locations) and the receiving waters for the priority pollutants listed in *Appendix A* prior to November 11, 2003, and submit the results to this Regional Board no later than January 1, 2004:

- Steam Condensate;
- Salt Water System;
- Boom, Mooring, and Fender System Cleaning; and
- Miscellaneous, except for discharges regulated by Order No. R9-2002-0020, NPDES No. CAG6790001 (i.e., Hydrostatic Test Water and Potable Water discharges) or other applicable NPDES permits.

b. Dioxin and Congeners

The Discharger shall monitor the discharges listed above and the receiving waters for the *17 congeners 2,3,7,8-TCDD listed in the Implementation Policy* once during wet weather and once during dry weather and submit the results to this Regional Board with its first or second annual report.

c. Reporting

The monitoring results shall be reported as specified in Section 2.4.4 of the Policy, which is included in *Appendix A.*

F. MONITORING REPORT SCHEDULE

Monitoring reports shall be submitted to this Regional Board according to the dates in the schedule in *Table 3. Monitoring and Reporting Schedule*.

Table 3. Monitoring and Reporting Schedule.

Reporting Frequency	**Report Period**	**Report Due**
Quarterly	January through March	May 1
Quarterly	April through June	August 1
Quarterly	July through September	November 1
Quarterly	October through December	February 1
Annually	January through December	March 1
Annual storm water monitoring	July 1 through June 30	August 1
Instances of noncompliance	per *Monitoring Provision A.9*, page M-2	As specified in *Monitoring Provision A.9*, page M-2
Appendix A Priority Pollutants	November 13, 2002 through June 30, 2003	August 1, 2003
Annually Appendix A 2,3,7,8-TCDD and congeners	November 13, 2002 through June 30, 2003 or 2004	August 1, 2003 or August 1, 2004

H. ENDNOTE REFERENCES

1. A grab sample is defined as an individual sample of at least 100 milliliters collected over a period not exceeding 15 minutes. Grab samples shall be collected over a shorter period if necessary to ensure that the constituent/parameter concentration in the sample is the same as that at the sampling location at the time the sample is collected.

Ordered by: 

JOHN H. ROBERTUS
Executive Officer

Date: November 13, 2002

Appendix A

Monitoring
Information
for
Compliance
With

Policy for the Implementation of Toxics
Standards for Inland Surface Waters,
Enclosed bays, and Estuaries of California

(Phase 1 of the Inland Surface waters Plan
and the Enclosed Bays and Estuaries Plan)

2000

November 13, 2002

REQUIREMENT FOR MONITORING OF PRIORITY POLLUTANTS REGULATED
IN THE
CALIFORNIA TOXICS RULE

In accordance with *Monitoring and Reporting Program No. R9-2002-0169*, the discharger must submit data to the San Diego Regional Water Quality Control Board to: (1) determine if water-quality based effluent limitations for priority pollutants are required; and (2) to calculate effluent limitations, if required. **The submitted data must include the following items:**

- the concentration of each priority pollutant (Table 1. 40 CFR 131.38 Priority Pollutants) in the effluent at the point of discharge;
- the concentration of each priority pollutant (Table 1. 40 CFR 131.38 Priority Pollutants) in the receiving water upstream of the point of discharge;
- the flow rate of the receiving water at the time of sampling (if discharge is to a river or creek);
- the pH of the effluent;
- the pH of the receiving water;
- the hardness of the effluent (fresh waters);
- the salinity of the receiving water (marine waters); and
- 2,3,7,8-TCDD and congeners (Table 3) must be analyzed and submitted according to the Implementation Policy.

Upon the Regional Board's evaluation of the submitted data, further monitoring of any or all of the priority pollutants may be required.

SWRCB-approved laboratory methods and the corresponding minimum levels (MLs) for the examination of each priority pollutant are listed in Tables 2a, 2b, 2c, and 2d of this Appendix. Reporting requirements for the data to be submitted are listed in this Appendix.

Table 1. 40 CFR 131.38 – Priority Pollutants

Compound	Concentration (µg/L)
Antimony	
Arsenic	
Beryllium	
Cadmium	
Chromium (III)	
Chromium (VI)	
Copper	
Lead	
Mercury	
Nickel	
Selenium	
Silver	
Thallium	
Zinc	
Cyanide	
Asbestos	
2,3,7,8-TCDD (Dioxin)	
Acrolein	
Acrylonitrile	
Benzene	
Bromoform	
Carbon Tetrachloride	
Chlorobenzene	
Chlorodibromomethane	
Chloroethane	
2-Chloroethylvinyl Ether	
Chlroform	
Dichlorobromomethane	
1,1-Dichloroethane	
1,2-Dichloroethane	
1,1-Dichloroethylene	
1,2-Dichloropropane	

Compound	Concentration (µg/L)
1,3-Dichloropropylene	
Ethylbenzene	
Methyl Bromide	
Methyl Chloride	
Methylene Chloride	
1,1,2,2-Tetrachloroethane	
Tetrachloroetheylene	
Toluene	
1,2-t-Dichloroethylene	
1,1,1-Trichloroethane	
1,1,2-Trichloroethane	
Trichloroethylene	
Vinyl Chloride	
2-Chlorophenol	
2,4-Dichlorophenol	
2,4-Dimehtylphenol	
2-Methyl-4,6-Dinitrophenol	
2,4-Dinitrophenol	
2-Nitrophenol	
4-Nitrophenol	
3-Methyl-4-Chlorophenol	
Pentachlorophenol	
Phenol	
2,4,6-Trichlorophenol	
Acenaphthene	
Acenaphthylene	
Anthracene	
Benzidine	
Benzo(a)Anthracene	
Benzo(a)Pyrene	
Benzo(b)Fluoranthene	
Benzo(ghi)Perylene	
Benzo(k)luoranthene	
Bis(2-Chloroethoxy)Methane	
Bis(2-Chloroethyl)Ether	
Bis(2-Chloroisopropyl)Ether	
Bis(2-Ethylhexyl)Phthalate	
4-Bromophenyl Phenyl Ether	
Butylbenzyl Phthalate	
2-Chloronaphthalene	
4-Chlorophenyl Phenyl Ether	
Chrysene	

Compound	Concentration (µg/L)
Dibenzo(a,h)Anthracene	
1,2-Dichlorobenzene	
1,3-Dichlorobenzene	
1,4-Dichlorobenzene	
3,3'-Dichlorobenzidine	
Diethyl Phthalate	
Dimethyl Phthalate	
Di-n-Butyl Phthalate	
2,4-Dinitrotoluene	
Di-n-Octyl Phthalate	
1,2-Diphenylhydrazine	
Fluoranthene	
Fluorene	
Hexachlorobenzene	
Hexachlorobutadiene	
Hexachlorocyclopentadiene	
Hexachloroethane	
Indeno(1,2,3-cd) Pyrene	
Isophorone	
Naphthalene	
Nitrobenzene	
N-Nitrosodimethylamine	
N-Nitrosodi-n-Propylamine	
N-Nitrosodiphenylamine	
Chlordane	
Phenanthrene	
Pyrene 1,2,4-Trichlorobenzene	
Aldrin	
Alpha-BHC	
beta-BHC	
gamma-BHC	
delta-BHC	
4,4'-DDT	
4,4'-DDE	
4,4'-DDD	
Dieldrin	
alpha-Endosulfan	
beta-Endosulfan	
Endosulfan Sulfate	
Endrin	
Endrin Aldehyde	

Compound	Concentration (µg/L)
Heptachlor	
Heptachlor Epoxide	
PCBs	
Toxaphene	

SWRCB Minimum Levels in ppb (µg/L)

The Minimum Levels (MLs) in this appendix are for use in reporting and compliance determination purposes in accordance with section 2.4 of the State Implementation Policy. These MLs were derived from data for priority pollutants provided by State certified analytical laboratories in 1997 and 1998. These MLs shall be used until new values are adopted by the SWRCB and become effective. The following tables (Tables 2a - 2d) present MLs for four major chemical groupings: volatile substances, semi-volatile substances, inorganics, and pesticides and PCBs.

Table 2a - VOLATILE SUBSTANCES*	GC	GCMS
1,1 Dichloroethane	0.5	1
1,1 Dichloroethene	0.5	2
1,1,1 Trichloroethane	0.5	2
1,1,2 Trichloroethane	0.5	2
1,1,2,2 Tetrachloroethane	0.5	1
1,2 Dichlorobenzene (volatile)	0.5	2
1,2 Dichloroethane	0.5	2
1,2 Dichloropropane	0.5	1
1,3 Dichlorobenzene (volatile)	0.5	2
1,3 Dichloropropene (volatile)	0.5	2
1,4 Dichlorobenzene (volatile)	0.5	2
Acrolein	2.0	5
Acrylonitrile	2.0	2
Benzene	0.5	2
Bromoform	0.5	2
Bromomethane	1.0	2
Carbon Tetrachloride	0.5	2
Chlorobenzene	0.5	2
Chlorodibromo-methane	0.5	2
Chloroethane	0.5	2
Chloroform	0.5	2
Chloromethane	0.5	2
Dichlorobromo-methane	0.5	2
Dichloromethane	0.5	2
Ethylbenzene	0.5	2
Tetrachloroethene	0.5	2
Toluene	0.5	2
Trans-1,2 Dichloroethylene	0.5	1
Trichloroethene	0.5	2
Vinyl Chloride	0.5	2

*The normal method-specific factor for these substances is 1; therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance.

Table 2b - SEMI-VOLATILE SUBSTANCES*	GC	GCMS	LC	COLOR
1,2 Benzanthracene	10	5		
1,2 Dichlorobenzene (semivolatile)	2	2		
1,2 Diphenylhydrazine		1		
1,2,4 Trichlorobenzene	1	5		
1,3 Dichlorobenzene (semivolatile)	2	1		
1,4 Dichlorobenzene (semivolatile)	2	1		
2 Chlorophenol	2	5		
2,4 Dichlorophenol	1	5		
2,4 Dimethylphenol	1	2		
2,4 Dinitrophenol	5	5		
2,4 Dinitrotoluene	10	5		
2,4,6 Trichlorophenol	10	10		
2,6 Dinitrotoluene		5		
2- Nitrophenol		10		
2-Chloroethyl vinyl ether	1	1		
2-Chloronaphthalene		10		
3,3’ Dichlorobenzidine		5		
3,4 Benzofluoranthene		10	10	
4 Chloro-3-methylphenol	5	1		
4,6 Dinitro-2-methylphenol	10	5		
4- Nitrophenol	5	10		
4-Bromophenyl phenyl ether	10	5		
4-Chlorophenyl phenyl ether		5		
Acenaphthene	1	1	0.5	
Acenaphthylene		10	0.2	
Anthracene		10	2	
Benzidine		5		
Benzo(a) pyrene(3,4 Benzopyrene)		10	2	
Benzo(g,h,i)perylene		5	0.1	
Benzo(k)fluoranthene		10	2	
bis 2-(1-Chloroethoxyl) methane		5		
bis(2-chloroethyl) ether	10	1		
bis(2-Chloroisopropyl) ether	10	2		
bis(2-Ethylhexyl) phthalate	10	5		
Butyl benzyl phthalate	10	10		
Chrysene		10	5	
di-n-Butyl phthalate		10		
di-n-Octyl phthalate		10		
Dibenzo(a,h)-anthracene		10	0.1	
Diethyl phthalate	10	2		
Dimethyl phthalate	10	2		
Fluoranthene	10	1	0.05	

Table 2b - SEMI-VOLATILE SUBSTANCES*	GC	GCMS	LC	COLOR
Fluorene		10	0.1	
Hexachloro-cyclopentadiene	5	5		
Hexachlorobenzene	5	1		
Hexachlorobutadiene	5	1		
Hexachloroethane	5	1		
Indeno(1,2,3,cd)-pyrene		10	0.05	
Isophorone	10	1		
N-Nitroso diphenyl amine	10	1		
N-Nitroso-dimethyl amine	10	5		
N-Nitroso -di n-propyl amine	10	5		
Naphthalene	10	1	0.2	
Nitrobenzene	10	1		
Pentachlorophenol	1	5		
Phenanthrene		5	0.05	
Phenol **	1	1		50
Pyrene		10	0.05	

* With the exception of phenol by colorimetric technique, the normal method-specific factor for these substances is 1,000; therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance multiplied by 1,000.

** Phenol by colorimetric technique has a factor of 1.

Table 2c – INORGANICS*	FAA	GFAA	ICP	ICPMS	SPGFAA	HYDRIDE	CVAA	COLOR	DCP
Antimony	10	5	50	0.5	5	0.5			1,000
Arsenic		2	10	2	2	1		20	1,000
Beryllium	20	0.5	2	0.5	1				1,000
Cadmium	10	0.5	10	0.25	0.5				1,000
Chromium (total)	50	2	10	0.5	1				1,000
Chromium VI	5							10	
Copper	25	5	10	0.5	2				1,000
Cyanide								5	
Lead	20	5	5	0.5	2				10,000
Mercury				0.5			0.2		
Nickel	50	5	20	1	5				1,000
Selenium		5	10	2	5	1			1,000
Silver	10	1	10	0.25	2				1,000
Thallium	10	2	10	1	5				1,000
Zinc	20		20	1	10				1,000

* The normal method-specific factor for these substances is 1; therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance.

Table 2d – PESTICIDES – PCBs*	GC
4,4'-DDD	0.05
4,4'-DDE	0.05
4,4'-DDT	0.01
a-Endosulfan	0.02
a-Hexachloro-cyclohexane	0.01
Aldrin	0.005
b-Endosulfan	0.01
b-Hexachloro-cyclohexane	0.005
Chlordane	0.1
d-Hexachloro-cyclohexane	0.005
Dieldrin	0.01
Endosulfan Sulfate	0.05
Endrin	0.01
Endrin Aldehyde	0.01
Heptachlor	0.01
Heptachlor Epoxide	0.01
Lindane(g-Hexachloro-cyclohexane)	0.02
PCB 1016	0.5
PCB 1221	0.5
PCB 1232	0.5
PCB 1242	0.5
PCB 1248	0.5
PCB 1254	0.5
PCB 1260	0.5
Toxaphene	0.5

* The normal method-specific factor for these substances is 100; therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance multiplied by 100.

Techniques:

GC - Gas Chromatography
GCMS - Gas Chromatography/Mass Spectrometry
HRGCMS - High Resolution Gas Chromatography/Mass Spectrometry (i.e., EPA 1613, 1624, or 1625)
LC - High Pressure Liquid Chromatography
FAA - Flame Atomic Absorption
GFAA - Graphite Furnace Atomic Absorption
HYDRIDE - Gaseous Hydride Atomic Absorption
CVAA - Cold Vapor Atomic Absorption
ICP - Inductively Coupled Plasma
ICPMS - Inductively Coupled Plasma/Mass Spectrometry
SPGFAA - Stabilized Platform Graphite Furnace Atomic Absorption (i.e., EPA 200.9)
DCP - Direct Current Plasma
COLOR - Colorimetric

MONITORING AND REPORTING REQUIREMENTS FOR THE POLICY

The following information must be included in the monitoring reports.

1. **Laboratory Requirements**. The laboratory analyzing the monitoring samples shall be certified by the Department of Health Services in accordance with the provisions of Water Code Section 13176 and **must include** quality assurance/quality control data with their reports.

2. **Minimum Levels (ML)**. The minimum levels are in accordance with the values listed in Tables 2a through 2d.

3. **Method Detection Limit (MDL)**. The method detection limit for the laboratory shall be determined by the procedure found in 40 Code of Federal Regulations (CFR) Part 136 (revised as of May 14, 1999).

4. **Reporting Protocols**. The results of analytical determinations for the presence of chemical constituents in a sample shall use the following reporting protocols (Policy §2.4.4):

   a. Sample results greater than or equal to the reported ML shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).
   b. Sample results less than the reported ML, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.
   c. For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."). The laboratory, if such information is available, may include numerical estimates of the data quantity for the reported result. Numerical estimates of data quantity may be percent accuracy (± a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.
   d. Sample results that are less than the laboratory's MDL shall be reported as "Not Detected" or ND.

5. **Data Format**. The monitoring report shall contain the following information for each pollutant:

   a. The name of the pollutant.
   b. The analytical results of the effluent monitoring.
   c. The applicable Minimum Level (ML) as specified in Tables 2a through 2d.
   d. The laboratory's current Method Detection Limit (MDL), as determined by the procedure found in 40 CFR Part 136 (revised as of May 14, 1999).
   e. The measured or estimated concentration.
   f. The analytical results for the 2,3,7,8-TCDD congeners shall include the quantifiable limit (Implementation Policy, p. 28), and the MDL, and the measured or estimated concentration. Additionally, each measured or estimated congener concentration shall be multiplied by its respective TEF value and the sum of these values reported. Each individual value shall also be reported.

Example of Data Format.

Discharger:_____ Name of Laboratory:_____
Contact Name:_____ Laboratory Contact:_____
Phone Number:_____ Phone Number:_____
Sample ID _____
Sample location _____

Name of Constituent	Date Sample Collected	Date Sample Analyzed	USEPA Method Used	Analytical Results (ug/L)	ML (ug/L)	MDL (ug/L)	RDL (ug/L)	Comments
1,1 Dichloroethane								
1,1 Dichloroethene								
1,1,1 Trichloroethane								
1,1,2 Trichloroethane								
1,1,2,2 Tetrachloroethane								
1,2 Dichlorobenzene (volatile)								
1,2 Dichloroethane								
1,2 Dichloropropane								
1,3 Dichlorobenzene (volatile)								
1,3 Dichloropropene (volatile)								
1,4 Dichlorobenzene (volatile)								
Acrolein								
Acrylonitrile								
Benzene								
Bromoform								
Bromomethane								
Carbon Tetrachloride								

Name of Constituent	Date Sample Collected	Date Sample Analyzed	USEPA Method Used	Analytical Results (ug/L)	ML (ug/L)	MDL (ug/L)	RDL (ug/L)	Comments
VOLATILE POLLUTANTS								
Chlorobenzene								
Chlorodibromo-methane								
Chloroethane								
Chloroform								
Chloromethane								
Dichlorobromo-methane								
Dichloromethane								
Ethylbenzene								
Tetrachloroethene								
Toluene								
Trans-1,2 Dichloroethylene								
Trichloroethene								
Vinyl Chloride								
SEMI – VOLATILE POLLUTANTS								
1,2 Benzanthracene								
1,2 Dichlorobenzene (Semivolatile)								
1,2 Diphenylhydrazine								
1,2,4 Trichlorobenzene								
1,3 Dichlorobenzene (Semivolatile)								
1,4 Dichlorobenzene (Semivolatile)								
2 Chlorophenol								
2,4 Dichlorophenol								
2,4 Dimethylphenol								
2,4 Dinitrophenol								

Name of Constituent	Date Sample Collected	Date Sample Analyzed	USEPA Method Used	Analytical Results (ug/L)	ML (ug/L)	MDL (ug/L)	RDL (ug/L)	Comments
2,4 Dinitrotoluene								
2,4,6 Trichlorophenol								
2,6 Dinitrotoluene								
2-Nitrophenol								
2-Chloroethyl vinyl ether								
2-Chloronaphthalene								
3,3' Dichlorobenzidine								
3,4 Benzofluoranthene								
4 Chloro-3-methylphenol								
4,6 Dinitro-2-methylphenol								
4-Nitrophenol								
4-Bromophenyl phenyl ether								
4-Chlorophenyl phenyl ether								
Acenaphthene								
Acenaphthylene								
Anthracene								
Benzidine								
Benzo (a) pyrene(3,4 Benzopyrene)								
Benzo (g,h,i) perylene								
Benzo (k) fluoranthene								
bis 2-(1-Chloroethoxyl methane								
bis(2-Chloroethyl) ether								
Bis(2-Chloroisopropyl) ether								
Bis(2-Ethylhexyl)								

Name of Constituent	Date Sample Collected	Date Sample Analyzed	USEPA Method Used	Analytical Results (ug/L)	ML (ug/L)	MDL (ug/L)	RDL (ug/L)	Comments
phthalate								
Butyl benzyl phthalate								
Chrysene								
di-n-Butyl phthalate								
di-n-Octyl phthalate								
Dibenzo(a,h)-anthracene								
Diethyl phthalate								
Dimethyl phthalate								
Fluoranthene								
Fluorene								
Hexachloro-cyclopentadiene								
Hexachlorobenzene								
Hexachlorobutadiene								
Hexachloroethane								
Indeno(1,2,3,cd)-pyrene								
Isophorone								
N-Nitroso diphenyl amine								
N-Nitroso-dimethyl amine								
N-Nitroso-di n-propyl amine								
Naphthalene								
Nitrobenzene								
Pentachlorophenol								
Phenanthrene								
Phenol								
Pyrene								

Name of Constituent	Date Sample Collected	Date Sample Analyzed	USEPA Method Used	Analytical Results (ug/L)	ML (ug/L)	MDL (ug/L)	RDL (ug/L)	Comments
INORGANICS								
Antimony								
Arsenic								
Beryllium								
Cadmium								
Chromium (total)								
Chromium VI								
Copper								
Cyanide								
Lead								
Mercury								
Nickel								
Selenium								
Silver								
Thallium								
Zinc								
PESTICIDES								
4,4’-DDD								
4,4’-DDE								
4,4’-DDT								
a-Endosulfan								
a-Hexachloro-cyclohexane								
Aldrin								
b-Endosulfan								
b-Hexachloro-cyclohexane								
Chlordane								
d-Hexachloro-								

Name of Constituent	Date Sample Collected	Date Sample Analyzed	USEPA Method Used	Analytical Results (ug/L)	ML (ug/L)	MDL (ug/L)	RDL (ug/L)	Comments
cyclohexane								
Dieldrin								
Endosulfan Sulfate								
Endrin								
Endrin Aldehyde								
Heptachlor								
Heptachlor Epoxide								
Lindane (g-Hexachloro-cyclohexane								
PCB 1016								
PCB 1221								
PCB 1232								
PCB 1242								
PCB 1248								
PCB 1254								
PCB 1260								
Toxaphene								

Marine Water
Salinity (ppt) _____
pH (units) _____

Fresh Water
hardness ($CaCo_3$, mg/L) _____
pH (units) _____

Table 3. Toxic Equivalency Factors (TEFs) for 2,3,7,8-TCDD Equivalents

Congener	TEF
2,3,7,8-TetraCDD	1
1,2,3,7,8-PentaCDD	1.0
1,2,3,4,7,8-HexaCDD	0.1
1,2,3,6,7,8-HexaCDD	0.1
1,2,3,7,8,9-HexaCDD	0.1
1,2,3,4,6,7,8-HeptaCDD	0.01
OctaCDD	0.0001
2,3,7,8-TetraCDF	0.1
1,2,3,7,8-PentaCDF	0.05
2,3,4,7,8-PentaCDF	0.5
1,2,3,4,7,8-HexaCDF	0.1
1,2,3,6,7,8-HexaCDF	0.1
1,2,3,7,8,9-HexaCDF	0.1
2,3,4,6,7,8-HexaCDF	0.1
1,2,3,4,6,7,8-HeptaCDF	0.01
1,2,3,4,7,8,9-HeptaCDF	0.01
OctaCDF	0.0001